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Radicular Pain in the Upper Extremity

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THE problem of radicular or root pain continues to intrigue practitioners of medicine. It is of particular importance to the internist, the orthopedist, the neurologist and the neurosurgeon. With the knowledge that has accumulated in the past 13 years about syndromes due to abnormal states of the intervertebral discs,[4] root pain has evoked new interest and concern. The contribution of Semmes and Murphey[6] concerning unilateral rupture of the cervical intervertebral discs served to focus attention on a group of cases that have proved difficult to manage, and afforded explanations of certain clinical phenomena that had previously been subjects for widespread differences of opinion.

Many questions remain to be answered, however, about certain syndromes of which radicular pain in the upper limbs is an essential presenting symptom. There are those cases of pain in the shoulder, arm, or forearm, in which thorough studies reveal no objective evidences of disease; cases with lesions of the tendon cuff of the shoulder in which, in addition to pain in the shoulder and arm, there is root pain in the lower posterior cervical region and forearm, with or without paresthesias such as numbness or tingling in the tips of the thumb and fingers; cases in which there are abnormal roentgenologic or neurologic findings in conjunction with root pain which resolves satisfactorily after conservative treatment; and finally, cases in which demonstrable protrusion of nuclear material from a disc occurs. It is to cases of these sorts that this paper is devoted.

ANATOMICAL CONSIDERATIONS

The bodies of the cervical vertebrae differ in certain respects from the others. Instead of being cylindrical in shape they are oblong, the transverse diameter being much longer than the anteroposterior. The pedicles or roots of the vertebral arches spring from the posterior half of the lateral aspects of the body, extend posteriorly and fuse with the laminae which converge posteriorly to enclose the vertebral canal. Binding together the laminae of the adjoining vertebrae are the ligamenta flava.

The vertebral canal is larger than in the thoracic or lumbar region, and is triangular or more nearly semilunar in outline. Where the pedicles and laminae join, cylindrical masses of bone project upward and downward to support the superior and inferior articular processes. The bone is so sliced away that the superior articular facets are directed upward and backward and the corresponding inferior surfaces are turned downward and forward. The apophyseal joints which are formed in this way are provided with complete but very thin-walled articular capsules lined with synovia. Corresponding to the freedom of movement of the neck, these capsules are thinnest and loosest in the cervical region.

Lying between the bodies of the vertebrae are the intervertebral fibrocartilages or discs. In the region between the third and seventh cervical vertebrae they are thinner than in any other portion of the spine. The superior and inferior surfaces of the discs are closely adherent to the epiphyseal plates of the adjoining vertebrae. The circumferential portion or annulus fibrosus, formed chiefly of parallel fibers running from one vertebra to the other, completely encloses the nucleus pulposus, which is composed of the remnant cells from the notocord and a semigelatinous matrix containing 75 to 90 per cent water.[1]

Each nerve root emerges from an intervertebral foramen which is bounded anteriorly by an intervertebral disc and by the bodies of the adjoining vertebrae, posteriorly by the capsules surrounding the intervertebral joints and above and below by the inferior and superior notched borders of the pedicles.

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EDITORIALS

Drastic Therapies

The use of somatic treatment procedures in psychiatry is nothing new. Blood letting, purgatives and emetics, vaccines, endocrinological substances, fever production with malaria and typhoid, prolonged narcosis with sedatives, and surgical procedures like thyroidectomy and hysterectomy—all these have been utilized in the past. And they were considered as drastic as the methods now being widely used, such as insulin and the various electro-convulsive treatments. The term "shock" therapy is a misnomer. Physiological shock is not produced, and the treatment is not directed at frightening or "shocking" the symptoms out of the patients. To describe these methods, including the surgical approach known as frontal leukotomy, as "drastic therapies" may be accurate in that they are violent treatments which may act rapidly and dramatically. But this is not to their discredit, for psychotherapy itself may be even more violent in its onslaught on the psychological defenses of the individual.

The shock therapies—insulin, electro-shock and electronarcosis—are now being re-evaluated and revised in the light of long continued experience. There is overwhelming evidence that convulsive therapy materially shortens the majority of depressive episodes, in particular those severe depressions observed during the involutional period. The therapeutic effect is not so certain nor so dramatic in the manic attack. Such treatment is definitely not prophylactic, and it will not prevent recurrence.

The results of the electro-convulsive treatment of schizophrenia are not so certain. Dramatic results may be obtained in selected cases, but relapses are definitely more frequent than in the affective psychoses. Although it was first thought that the newer electronarcosis treatment of schizophrenia might offer better results than electro-shock therapy, continuing clinical experience does not confirm this first impression. It is probable that electronarcosis offers little advantage over electro-shock, and that the therapeutic efficacy of each mode of treatment depends essentially on the production of a convulsion. In the treatment of the psychoneuroses, electro-convulsive therapy has been for the most part a failure, and too often it has been administered because the therapist has been frustrated in his psychotherapeutic efforts or because he has rationalized to himself that the patient will be more psychotherapeutically accessible if the "affective" components of the patient's illness are removed by the convulsive therapy. Since the patients in such cases usually do not need hospital care, many have been treated in office practice, sometimes indiscriminately and without the supervision needed in the period immediately following treatment. However, the therapy in general should not be condemned because it has been injudiciously applied in some cases. It has definite limitations, as does every other therapy in medicine. It is not a panacea. It is not without certain hazards and possible complications, such as vertebral fractures, which can be adequately controlled by appropriate measures in competent hands. Within these limitations electro-convulsive therapy is a powerful and efficacious tool in the therapeutic armamentarium of the psychiatrist.

Because of its simplicity and ease of administration, electro-shock therapy has tended to supplant the more complicated insulin hypoglycemic treatment, although there is considerable evidence that insulin therapy is more beneficial in the treatment of schizophrenia. With any treatment the relapse rate is high, particularly in schizophrenia. Shock therapy in any form can be looked upon as only one facet of a total psychiatric regime, and it should be considered only after a thorough study of the patient has been made.

CALIFORNIA MEDICAL ASSOCIATION

NOTICES AND REPORTS

Council Action on Rebates

At its meeting of February 21-22, 1948, the Council of the California Medical Association received an open letter which was addressed to it and to the Council of the Los Angeles County Medical Association by the Los Angeles Radiological Society, a unit of the Los Angeles County Medical Association. The Council of the C.M.A., after due consideration, voted unanimously that this letter should be published, as requested, and that a further note should be added to it, to indicate the actions already taken by the official Councils of both the California Medical Association and the Los Angeles County Medical Association.

The letter from the Los Angeles Radiological Society follows:

AN OPEN LETTER TO THE COUNCIL OF THE L.A.C.M.A. AND THE C.M.A.

Members of our Section have regretted as much as anyone the publicity necessary to abolish secret rebating. To this group, which has been working continuously against such discreditable practices for more than 20 years, it seems regrettable that some County Medical members seem more interested in seeking out someone to criticize for the publicity than in cooperating in the attempt to eradicate the evil which caused it.

Although some of the criticism has been a matter of self interest, there are a good many who state that "something" should have been done by "somebody" by "some other method" to end these disreputable practices. Unfortunately, with medical government as with civil government, many of our most reputable citizens follow the path of least resistance and leave the work to others. Those who do not realize that every available means has been tried over the years by numerous groups and individuals to get rebating abolished without the use of outside help are entitled to know some of the facts of life pertaining to medical government so that such conditions will not again arise.

The recent anti-rebating resolution of the Council of the Los Angeles County Medical Association is an excellent step but previous resolutions have failed because their effort has been nullified by pressure groups and because our by-laws contain no effective machinery for discipline. Although we often admit 50 to 60 members at a time, only a handful have been expelled for breaches of discipline during the last decade—a fact which is well known to those who travel on the borderline.

Those of us in a position to see the sad results to the public of the x-ray rebating groups—none of which are operated by certified radiologists, and many of which are operated purely as a business venture by laymen—are particularly anxious to see effective legislation in the A.M.A. and its component parts as well as in the legislature to end all rebating schemes once and for all. The "once-over-lightly" examination offered by such groups means undiagnosed early cancers, diagnoses of tuberculosis which never existed, with monthly chest check-up examinations being recommended, and as many as 52 x-ray treatments for unsuitable diseases such as varicose veins with resultant permanent skin damage. These examples are but a few of the tragic results to the patient which occur when medicine is regarded as a commercial enterprise to be driven as a trade instead of practiced as a profession.

Efforts to improve the future must necessarily take into account the failures of the past. In fairness to the facts several powerful influences must be mentioned. One large laboratory which has recently denounced rebating and has simultaneously reduced its fee schedule by 25 per cent, has for many years, as now—which reference to the Los Angeles County Medical Bulletin will show—had at least one member of its "Advisory Board" on the Council of the Los Angeles County Medical Association.

No matter how conscientious some members of the Los Angeles County Council have been, or how well intended their countless resolutions in the past, strong but unrelenting pressure from a minority has rendered attempts to abolish rebating ineffective.